

## CLAIMS

What is claimed is:

1           1.     A system for proactive forced renewal of content protection  
2     implementations in devices comprising:  
3           a key generation facility to generate and allocate keys for the devices, and  
4     to generate revocation data corresponding to revoked keys, the revoked keys  
5     being revoked in response to at least one of a security compromise and on a  
6     periodic basis independent of a security compromise; and

7           a device manufacturer to receive the keys from the key generation facility,  
8     to embed the keys in content protection implementations for the devices, to  
9     distribute the devices, and to renew the content protection implementations in  
10    devices after the devices are distributed, the renewal occurring in response to at  
11    least one of a security compromise and on a periodic basis independent of a  
12    security compromise.  
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1           2.     The system of claim 1, further comprising a content provider to receive  
2     the revocation data from the key generation facility, and to communicate the  
3     revocation data to the devices.  
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1           3.     The system of claim 1, wherein the device manufacturer receives the  
2     revocation data from the key generation facility, and communicates the  
3     revocation data to the devices.  
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1           4.     The system of claim 1, wherein generation of the revocation data and  
2     renewal of the content protection implementations in the devices are performed  
3     at the same frequency.  
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1           5.     The system of claim 1, wherein each device processes the revocation  
2     data prior to allowing access to protected content.

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1           6. The system of claim 1, wherein the revocation data comprises a range  
2 of key IDs for revoked keys.

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1           7. The system of claim 1, wherein the revocation data comprises a block  
2 of data encrypted by selected keys in a group of keys so that only non-revoked  
3 keys in the key group can be used successfully to process the data and thereby  
4 gain access to the content.

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1           8. The system of claim 1, wherein the devices comprise consumer  
2 electronics devices for accessing protected content.

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1           9. The system of claim 1, wherein the device manufacturer renews the  
2 content protection implementations in the devices prior to the distribution of  
3 corresponding revocation data by a selected amount of time.

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1           10. The system of claim 3 wherein the device manufacturer  
2 communicates the revocation data to newly manufactured devices and to  
3 previously distributed devices.

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1           11. The system of claim 1, wherein the key generation facility sends the  
2 revocation data to a storage media manufacturer for communication of the  
3 revocation data onto at least one of blank media and pre-recorded media, the  
4 media being readable by the devices.

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1           12. The system of claim 1, wherein the key generation facility sends the  
2 revocation data to a broadcaster for communication of the revocation data into  
3 broadcast content for reception by the devices.

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1           13. The system of claim 1, wherein the devices comprise software-  
2 implemented player applications for accessing protected content.

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14. A method comprising:

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receiving keys from a key generation facility;

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embedding the keys in a content protection implementation for a plurality

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of devices;

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distributing the devices; and

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renewing the content protection implementations in the devices after the

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devices are distributed, the renewal occurring in response to at least one of a

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security compromise and on a periodic basis independent of a security

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compromise.

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15. The method of claim 14, further comprising periodically receiving

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revocation data from the key generation facility; and

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communicating the revocation data to newly manufactured devices.

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16. The method of claim 15, wherein periodically receiving the revocation

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data and renewing the content protection implementations in the devices are

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performed at the same frequency.

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17. The method of claim 15, wherein the revocation data comprises a

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range of key IDs for revoked keys.

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18. The method of claim 15, wherein renewing the content protection

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implementations in the devices occurs prior to communicating the revocation

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data to previously distributed devices by a selected amount of time.

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19. The method of claim 14, wherein the devices comprise software-

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implemented player applications for accessing protected content.

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20. The method of claim 15, wherein each device processes the

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revocation data prior to allowing access to protected content.

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1           21. An article comprising: a storage medium having a plurality of machine  
2 readable instructions, wherein when the instructions are executed by a  
3 processor, the instructions provide for receiving keys from a key generation  
4 facility, embedding the keys in content protection implementations for a plurality  
5 of devices, distributing the devices, and renewing the content protection  
6 implementations in the devices after the devices are distributed, the renewal  
7 occurring in response to at least one of a security compromise and on a periodic  
8 basis independent of a security compromise.

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1           22. The article of claim 21, further comprising instructions for periodically  
2 receiving revocation data from the key generation facility, and communicating the  
3 revocation data to newly manufactured devices.

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1           23. The article of claim 22, wherein instructions for periodically receiving  
2 the revocation data and periodically renewing the content protection  
3 implementations in the devices are performed at the same frequency.

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1           24. The article of claim 22, wherein the revocation data comprises a  
2 range of key IDs for revoked keys.

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1           25. The article of claim 22, wherein renewing the content protection  
2 implementations in the devices occurs prior to communicating the revocation  
3 data into previously distributed devices.

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